

P001 798 PC/HG

Claims:

- 5           1. A mobile telecommunications network including a plurality of base station systems (10) adapted to communicate with a mobile terminal (1) over a predetermined licensed radio interface and switching centers (202) connected to a plurality of said base station systems (10), wherein each switching center (202) and the base station systems (10) connected thereto share a location area identity, said base station systems (10) being adapted to communicate information indicative of said location area identity to a mobile terminal (1),
- 10           characterised in that said network further includes at least two unlicensed-radio access networks, each comprising an access point controller (303) connected to one of said switching centers (202), multiple access points (303) adapted to communicate with said mobile terminal (1) via an unlicensed-radio interface, a fixed broadband network (302) connecting said plurality of access points (301) with said access network controllers (303) and a lookup table mapping a location area identity with address
- 15           information for an access point controller (303) on said fixed broadband network (302), wherein each said access point is adapted to receive from said mobile station information indicative of a last received location area, to receive from said lookup table address information for an access point controller (303) mapped to said location identity and to establish a
- 20           connection with said addressed access point controller (303) via said fixed broadband network.
- 25           2. A network as claimed in claim 1, characterised in that said lookup table (40) is accessible via said fixed broadband network (302) and is adapted to

generate said address information in response to a request including said location identity.

- 5 3. A network as claimed in claim 1 or 2, characterised in that said access point is adapted to generate a request to said lookup table containing said location identity and to receive said address information in response to said request.
- 10 4. A network as claimed in claim 1 or 2, characterised in that said access point is connected to an access point controller (303) and is adapted to transmit said location identity to said access point controller (303), said access point controller (303) being adapted to submit a request to said lookup table containing said location identity, to receive said address information in response to said request and to transmit said address  
15 information to said access point (301).
5. A network as claimed in claim 1, characterised in that at least part of said lookup table (40) is stored in said access point.
- 20 6. A network as claimed in claim 1, characterised in that at least part of said lookup table (40) is stored in an access point controller (303) connected by default to said access point (301).
- 25 7. A network as claimed in any previous claim, characterised in that said fixed broadband network is an internet protocol based network and said address is an internet protocol address.
- 30 8. An unlicensed-radio access system connected to a core network portion of a licensed mobile network, said unlicensed-radio access system including a plurality of access points (301) adapted to communicate with mobile

stations (1) over an unlicensed-radio interface, a plurality of access point controllers (303) connected to said core network portion (20) and a fixed broadband network (302) connected to both said access points (301) and said access point controllers (303), characterised in that each said access point controller (303) is associated with a location area in said licensed radio mobile network, said system furthermore being provided with at least one lookup table containing information mapping location areas to address information of access point controllers (303) on said fixed broadband network (302), wherein each access point (301) is adapted to receive from a mobile station information indicative of a location area corresponding to a portion of said licensed mobile network, to obtain from said lookup table address information of an access point controller (303) on said fixed broadband network (302) associated with said location area information and to establish a connection with said addressed access point controller (303) via said fixed broadband network.

9. A system as claimed in claim 8, characterised in that said lookup table is comprised in a database server located on said fixed broadband network (302).

10. A system as claimed in claim 8 or 9, further characterised in that at least part of the data in said lookup table is stored in said access points.

11. A system as claimed in any one of claims 8 to 10, characterised in that said fixed broadband network is an internet protocol based network and said address is an internet protocol address.

12. A system as claimed in claim 8, characterised in that each access point (301) is connected for communication with a default access point controller (303), wherein the access points are adapted to connect to a

different access point controller (303) if the information indicative of a location area does not correspond to the fixed broadband network address of said default access point controller (303).

5 13. A method for establishing a connection between a mobile station and a core network portion of a mobile communications network via an unlicensed-radio access network, said mobile communications network comprising access portions including base stations (10) and switching control parts (202) connected to said base stations, each switching control  
10 part (202) sharing a common location area identity with a plurality of said base stations and said base stations (101) being adapted to communicate said location area identity to a mobile station, said unlicensed-radio access network (30) comprising at least one access point (103) adapted to communicate with a mobile station (1) via an unlicensed-radio interface, at  
15 least one access network controller (303) each connected to a switching control part (202), a fixed broadband network (302) connected to said at least one access point controller (303) and access point (103) and a lookup table containing data mapping a location area identity with an address of one of said access network controllers (303) on said fixed broadband  
20 network (302), said method including the steps of:  
said access point (301) receiving from said mobile station information indicative of a location area identity,  
receiving from said lookup table the address of an access point controller (303) associated with said location area identity,  
25 establishing a connection with said addressed access point controller via said fixed broadband network to enable communication between said mobile station and said core network.

30 14. A method as claimed in claim 13, characterised by the further step of: said access point submitting a request to said lookup table (40) over said fixed

broadband network (302), said request containing said information indicative of said location area identity.

5 15. A method as claimed in claim 13, characterised in that each access point is connected for communication to a default access point controller (303), said method including the step of: said default access point controller (303) receiving from said access point said information indicative of a location area identity, submitting a request to said lookup table using said location area identity information, receiving from said lookup table the address of  
10 an access point controller (303) associated with said location area identity and relaying said address to said access point (301).

15 16. A method in an unlicensed radio access network for assigning and connecting access points (301) to an access point controller (303), said unlicensed radio access network including a plurality of access points (301) a plurality of access controllers (303) connected to a licensed mobile core network (20) and a fixed broadband network connected to said access controllers and for connecting to said access points, and wherein each  
20 access point controller is associated with a location area of said licensed mobile network, said method including the steps of: receiving from said mobile station a location area indicator indicative of a location area of said licensed mobile network with which said mobile station was last in communication, retrieving fixed broadband network address information for an access point  
25 switching controller associated with said location area indicator, and connecting said access point to said retrieved broadband network address of said an access point switching controller to establish a connection.

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